IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Thomas FRIETSCH	**Confirmation No.:**	7146
Serial No.:	10/698,016	**Examiner:**	Thomas J. DAILEY
Filed:	October 31, 2003	**Group Art Unit:**	2452

Title: NETWORK SERVER AND METHOD OF DISCOVERY OF A NETWORK NODE

MAIL STOP RCE
Commissioner for Patents
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PRELIMINARY AMENDMENT ACCOMPANYING
A REQUEST FOR CONTINUED EXAMINATION (RCE)

Sir:

In response to the Office Action dated August 4, 2010, kindly amend the application identified above as follows. In the following, underlines indicate insertions and strikethroughs and double brackets indicate deletions.

IN THE CLAIMS

Please find below a listing of all of the pending claims. The status of each claim is set forth in parentheses. This listing will replace all prior versions, and listings, of claims in the present application.

1.-31. (Canceled)

32.   (Currently Amended) A method of discovering that a particular network node ~~having an assigned address~~ has been connected to a computer network, wherein the network includes ~~including~~ (a) plural nodes, one of which is the particular node, and (b) a server arrangement including a network portion and a discovery portion, the method comprising:

responding to [[the]] an establishment of [[the]] a connection of the particular network node to the network, the network portion of the server arrangement receiving an access request from the particular network node, wherein the particular network node has an assigned address assigned by a device in the network ~~by transmitting an initial request from the particular node to the network portion of the server arrangement via the network, the initial access request including the assigned address of the particular node, wherein the assigned address is assigned when the particular node is connected to the network; the network portion of the server arrangement responding to the initial access request by initiating a discovery request and deriving an indication of the assigned address of the particular node;~~

in response to receiving the access request, the network portion authenticating the particular network node;

the network portion ~~supplying the~~ sending a discovery request and the assigned

address of the particular network node to the discovery portion of the server arrangement

[[only]] after the network portion has ~~determined that~~ successfully authenticated the

particular network node ~~is an authenticed node of the network~~;

the discovery portion ~~responding to the discovery request applied to the discovery~~

~~portion by the network portion by~~ storing the assigned address of the particular network node

and initiating a discovery program that performs a discovery procedure for that particular

network node ~~in response to the supplying of the discovery request and the assigned address~~

~~of the particular node to the discovery portion~~;

the discovery procedure for the particular network node including polling other nodes

in the network to determine a network topography, the polled network topography including

at least some of the other nodes to which the particular network node is connected, and the

configuration of the particular network node.

33.   (Previously Presented) The method of claim 32 wherein the discovery portion

receives a sequence of discovery requests including assigned addresses of various nodes of

the network which have requested access to the network, the discovery portion storing the

assigned addresses of the received requests from the various nodes.

34.   (Currently Amended) The method of claim 33 wherein the ~~sequence of~~ discovery

portion stores the assigned addresses ~~is stored~~ as a stack that the discovery portion processes

in a first-in-first-out order.

35.   (Currently Amended) A method of discovering that a particular network node ~~having~~

~~an assigned address~~ has been connected to a computer network, wherein the network includes

~~including~~ (a) plural nodes, one of which is the particular node, and (b) a server arrangement

including a network portion and a discovery portion, the method comprising:

responding to [[the]] an establishment of [[the]] a connection of the particular network

node to the network, the network portion of the server arrangement receiving an access

request from the particular network node, wherein the particular network node has an

assigned address assigned by a device in the network ~~by transmitting an initial request from~~

~~the particular node to the network portion of the server arrangement via the network, the~~

~~initial access request including the assigned address of the particular node, wherein the~~

~~assigned address is assigned when the particular node is connected to the network; the~~

~~network portion of the server arrangement responding to the initial access request by~~

~~initiating a discovery request and deriving an indication of the assigned address of the~~

~~particular node;~~

in response to receiving the access request, the network portion authenticating the

particular network node;

the network portion ~~supplying the~~ sending a discovery request and the assigned

address of the particular network node to the discovery portion of the server arrangement

[[only]] after the network portion has ~~determined that~~ successfully authenticated the

particular network node ~~is an authenticed node of the network~~;

the discovery portion ~~responding to the discovery request applied to the discovery~~

~~portion by the network portion by~~ storing the assigned address of the particular network node

and initiating a discovery program that performs a discovery procedure for the particular

network node ~~in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion~~;

the discovery procedure for the particular node including determining status information about the particular network node and the discovery procedure further including polling other nodes in the network to determine a network topography, the polled network topography including at least some of the other nodes to which the particular network node is connected, and the configuration of the particular network node.

36. (Previously Presented)   The method of claim 35 wherein the discovery portion receives a sequence of discovery requests including assigned addresses of various nodes of the network which have requested access to the network, the discovery portion storing the assigned addresses of the received requests from the various nodes.

37. (Currently Amended)   The method of claim 36 wherein the ~~sequence of~~ discovery portion stores the assigned addresses ~~is stored~~ as a stack that the discovery portion processes in a first-in-first-out order.

38.   (Currently Amended) A non-transitory storage medium or device storing machine-readable information for causing a processor to execute the steps of claim 32 on the network of claim 32.

39.   (Currently Amended) A <u>non-transitory</u> storage medium or device storing machine-readable information for causing a processor to execute the steps of claim 35 on the server arrangement of claim 35.

40.   (Currently Amended) A server arrangement including machine-readable information executed by a processor, the server arrangement for discovering that a particular network node ~~having an assigned address~~ has been connected to a computer network<u>, wherein the particular network node has an assigned address assigned by a device in the network,</u> ~~including plural nodes, one of which is the particular node,~~ the server arrangement including:

a network portion and a discovery portion;

the network portion being arranged to<u>,</u> respond<u>ing</u> to [[the]] <u>an</u> establishment of [[the]] <u>a</u> connection of the particular network node to the network<u>, receive an access request from the particular network node</u> ~~by the particular node transmitting an initial request to the network portion of the server arrangement via the network, the initial access request including the assigned address of the particular node, wherein the assigned address is assigned when the particular node is connected to the network;~~

the network portion being arranged to <u>authenticate the particular network node in response to receiving the access request</u> ~~respond to the initial access request by initiating a discovery request and deriving an indication of the assigned address of the particular node~~;

the network portion being arranged to ~~supply the~~ <u>send a</u> discovery request and the assigned address of the particular <u>network</u> node to the discovery portion [[only]] after the network portion has ~~determined that~~ <u>successfully authenticated</u> the particular <u>network</u> node ~~is an authenticed node of the network~~;

the discovery portion being arranged to ~~respond to the discovery request applied to the discovery portion by the network portion by storing~~ store the assigned address of the particular network node and initiating a discovery program that performs a discovery procedure for the particular network node ~~in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion~~; and

the discovery procedure for the particular network node including polling other nodes in the network to determine a network topography, the polled network topography including at least some of the other nodes to which the particular network node is connected, and the configuration of the particular network node.

41.   (Currently Amended) The server arrangement of claim 40 wherein the discovery portion is arranged to receive a sequence of ~~delivery~~ discovery requests including assigned addresses of various nodes of the network which have requested access to the network and includes a storage for storing the assigned addresses on the received requests from the various nodes.

42.   (Currently Amended) The server arrangement of claim 41 wherein the storage is arranged to store the ~~sequence of~~ assigned addresses as a stack, the discovery portion being arranged to process the stack in a first-in-first-out order.

43.   (Currently Amended) A server arrangement including machine-readable information executed by a processor, the server arrangement for discovering that a particular network node ~~having an assigned address~~ has been connected to a computer network, wherein the

particular network node has an address assigned by a device in the network, ~~including plural nodes, one of which is the particular node,~~ the server arrangement including:

a network portion and a discovery portion;

the network portion being arranged to, respond<u>ing</u> to [[the]] <u>an</u> establishment of [[the]] <u>a</u> connection of the particular network node to the network<u>, receive an access request from the particular network node</u> ~~by the particular node transmitting an initial request to the network portion of the server arrangement via the network, the initial access request including the assigned address of the particular node, wherein the assigned address is assigned when the particular node is connected to the network~~;

the network portion being arranged to <u>authenticate the particular network node in response to receiving the access request</u> ~~respond to the initial access request by initiating a discovery request and deriving an indication of the assigned address of the particular node~~;

the network portion being arranged to ~~supply the~~ <u>send a</u> discovery request and the assigned address of the particular <u>network</u> node to the discovery portion [[only]] after the network portion has ~~determined that~~ <u>successfully</u> authenticated the particular <u>network</u> node ~~is an authenticed node of the network~~;

the discovery portion being arranged to ~~respond to the discovery request applied to the discovery portion by the network portion by storing~~ <u>store</u> the assigned address of the particular <u>network</u> node and initiating a discovery program that performs a discovery procedure for the particular <u>network</u> node ~~in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion, wherein the assigned address is assigned when the particular node is connected to the network~~;

the discovery procedure for the particular <u>network</u> node including determining status information about the particular <u>network</u> node and the discovery procedure further including polling other nodes in the network to determine a network topography, the polled network topography including at least some of the other nodes to which the particular <u>network</u> node is connected, and the configuration of the particular <u>network</u> node.

44.   (Currently Amended) The server arrangement of claim 43 wherein the discovery portion is arranged to receive a sequence of ~~delivery~~ <u>discovery</u> requests including assigned addresses of various nodes of the network which have requested access to the network and includes a storage for storing the assigned addresses on the received requests from the various nodes.

45.   (Currently Amended) The server arrangement of claim 44 wherein the storage is arranged to store the ~~sequence of~~ assigned addresses as a stack, the discovery portion being arranged to process the stack in ~~first-in-first-and~~ <u>a first-in-first-out</u> order.

46.   (Currently Amended) A computer network for discovering that a particular network node ~~having an assigned address~~ has been connected to the computer network, the network comprising:

a server arrangement including machine-readable information executed by a processor; and

plural nodes, one of which is the particular <u>network</u> node<u>, wherein the particular network node is assigned an addressed by the network</u>;

the server arrangement including:

a network portion and a discovery portion, the network portion being arranged

to, respond~~ing~~ to [[the]] an establishment of [[the]] a connection of the particular network

node to the network, receive an access request from the particular network node ~~by the~~

~~particular node transmitting an initial request to the network portion of the server~~

~~arrangement via the network~~,

the network portion being arranged to authenticate the particular network node

in response to receiving the access request,

~~the initial access request including the assigned address of the particular node~~

~~and wherein the assigned address is assigned when the particular node is connected to the~~

~~network, the network portion of the server arrangement being arranged to respond to the~~

~~initial access request by initiating a discovery request and deriving an indication of the~~

~~assigned address of the particular node,~~

the network portion being arranged to ~~supply the~~ send a discovery request and

the assigned address of the particular network node to the discovery portion [[only]] after the

network portion has ~~determined that~~ successfully authenticated the particular network node ~~is~~

~~an authenticed node of the network~~,

the discovery portion being arranged to ~~respond to the discovery request~~

~~applied to the discovery portion by the network portion by storing~~ store the assigned address

of the particular network node and initiating a discovery program that performs a discovery

procedure for the particular network node ~~in response to the supplying of the discovery~~

~~request and the assigned address of the particular node to the discovery portion~~, and

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the discovery procedure for the particular <u>network</u> node including determining

status information about the particular <u>network</u> node and the discovery procedure further

including polling other nodes in the network to determine a network topography, the polled

network topography including at least some of the other nodes to which the particular

<u>network</u> node is connected, and the configuration of the particular <u>network</u> node.

47.   (Currently Amended) The computer network of claim 46 wherein the discovery

portion is arranged to receive a sequence of ~~delivery~~ <u>discovery</u> requests including assigned

addresses of various nodes of the network which have requested access to the network and

includes a storage for storing the assigned addresses on the received requests from the various

nodes.

48.   (Currently Amended) The method of claim 32 wherein the particular node includes a

portable computer and a docking station, the docking station responding to the portable

computer being initially connected to the docking station by booting the portable computer

and performing a logon dialog between the network portion of the server arrangement and the

portable computer;

         the logon dialog being the ~~initial~~ <u>access</u> request;

         the network portion of the server arrangement responding to the logon dialog

from the portable computer by ~~determining if~~ <u>authenticating</u> the portable computer ~~is an~~

~~authenticed node of the network~~;

         the server arrangement, when connected to the <u>authenticated</u> portable computer

~~that is the authenticed node~~, functioning as a domain controller for the portable computer.

REMARKS

Favorable reconsideration of this application is respectfully requested in view of amendments above and the following remarks.

Status of Claims

Claims 32-48 are currently pending in the application of which claims 32, 35, 40, 43, and 46 are independent. Claims 1-32 are canceled without prejudice or disclaimer of the subject matter therein.

By virtue of the amendments above, claims 32, 34, 35, and 37-48 have been amended. Support for the amendments may be found in the specification, at least in paragraphs [0014]-[0022].

No new matter has been introduced by way of the amendments above. Entry thereof is therefore respectfully requested.

Summary of the Office Action

Claims 32, 35, 38-40, 43, and 46 were objected to because of minor informalities.

The specification was objected to as allegedly failing to provide proper antecedent basis for the claimed subject matter.

Claims 32-48 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement.

Claims 32-48 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 32-33, 35-36, 38-41, 43-44, and 46-47 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2003/0005100 to Barnard et al. (hereinafter "Barnard") in view of U.S. Patent No. 5,790,548 to Sistanizadeh et al. (hereinafter "Sistanizadeh"), and in further view of the applicant's admitted prior art (hereinafter "AAPA").

Claims 34, 37, 42, and 45 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Barnard in view Sistanizadeh and AAPA, in further view of what was well known in the art as applied to claims 36, 41, 44, and 47, and in further view of what was well known in the art at the time of the invention.

The rejections above are respectfully traversed for at least the reasons set forth below.

Claim Objections

Claims 32, 35, 38-40, 43, and 46 were objected to because of the word "authenticed." In response, "authenticed" has been changed to "authenticated." Therefore, the objection of claims 32, 35, 38-40, 43, and 46 should be withdrawn.

Specification Objection

The specification was objected to because, as asserted in the Office Action, "it is unclear how the assigned address is assigned when the node connects to the network, but at the same time the node already has the assigned address when it connects to the network."

In response, the independent claims in the present application have been amended to recite that "wherein the particular network node has an assigned address assigned by a device in the network." Support for this feature may be found in the specification, at least in

paragraph [0014] which states, "Network node 102 has an assigned IP address for addressing

of the network node 102 by means of the transmission control protocol / Internet protocol

(TCP / IP)." Thus, it is clear from the specification that the network 100 in Fig. 1 assigns an

IP address to the network node 102. Therefore, the specification provides proper antecedent

basis for the subject matter now recited in the claims. Withdrawal of the objection to the

specification is therefore respectfully requested.

Claim Rejection Under 35 U.S.C. §112

Claims 32-48 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing

to comply with the written description requirement. The claims have been amended to recite

"wherein the particular network node has an assigned address assigned by a device in the

network." In view of the amendments above to the claims, it is believed that the written

description of the present application provide proper support for the subject matter recited in

the claims. Withdrawal of the rejection of claims 32-48 under 35 U.S.C. §112, first

paragraph is therefore respectfully requested.

Claims 32-48 were rejected under 35 U.S.C. §112, second paragraph, as allegedly

being indefinite. The claims have been amended to recite "wherein the particular network

node has an assigned address assigned by a device in the network." In view of the

amendments above to the claims, it is believed that claims 32-48 are now clear and definite.

Withdrawal of the rejection of claims 32-48 under 35 U.S.C. §112, second paragraph is

therefore respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007):

> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385. According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

> (A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or

to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render the claims obvious and, thus, the claims are distinguishable over the cited reference(s).

- **Claims 32-33, 35-36, 38-41, 43-44, and 46-47:**

Claims 32-33, 35-36, 38-41, 43-44, and 46-47 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Barnard in view of Sistanizadeh in further view of AAPA. This rejection is respectfully traversed for at least the following reasons.

Amended independent claim 32 recites,

"wherein the particular network node has an assigned address assigned by a device in the network."

In the rejection of claim 32, the Office Action asserts that the MAC address of the printer, as disclosed in paragraph [0074] of Barnard, is the "assigned address" recited in claim 32 (See *Office Action*, page 7). However, that assertion is respectfully traversed because the MAC address is not an assigned address assigned by the network. A MAC address is a permanent unique identifier of a network card given at the time of manufacture of the network card, and it is not later assignable. A subsequent sentence from the same paragraph [0074] makes clear that an assigned address is different than a MAC address

stating, "[t]he MAC address and the assigned IP address are provided to …." Therefore, the

MAC address in Barnard is not the "assigned address" of a particular network node, as

recited in claim 32.

        Claim 32 also recites,

        the discovery procedure for the particular network node including polling
        other nodes in the network to determine a network topography, the polled network
        topography including at least some of the other nodes to which the particular
        network node is connected, and the configuration of the particular network node.

        Claim 32 also describes that the discovery procedure is in response to the access

request from the node establishing a connection to the network. Barnard and Sistanizadeh

fail to teach or suggest these features. In the rejection of claim 32, the Office Action asserts

that the features recited above are disclosed in paragraph [0077], lines 12-27 of Barnard

(*Office Action*, page 8). However, paragraph [0077], lines 12-27 discloses polling of nodes

one at a time. However, paragraph [0077], lines 12-27 does not disclose polling a network

topology, but rather, only discloses sending an SNMP information request message over

network 10 to the printing device. Thus, Barnard fails to teach or suggest the polling features

recited above in claim 32.

        The Office Action also admits that Barnard and Sistanizadeh fail to teach or suggest

polling other nodes in a network to determine a network topology (See *Office Action*, page 9).

The Office Action then relies on AAPA described in the background of the Applicants'

specification to teach this claimed feature. The background of the Applicants' specification

discloses scheduled polling of the network that is typically performed at night when the

network load is low. The background in paragraph 6 then describes the disadvantages of the

scheduled polling. Paragraph 6 states,

A disadvantage of scheduled discovery which is performed by the NNM product is that the discovery procedure can negatively affect network performance when the discovery procedure is carried out. This is why the discovery schedule is typically set such that the discovery procedure is carried out when the network load is low, i.e., during the night. However, performing the discovery at predetermined time intervals has the disadvantage that network nodes which are connected to the network only temporarily can be missed by the discovery. In particular this applies to portable computers, such as lap top computers which are frequently connected and disconnected to the network by means of a docking station.

Thus, the APPA being relied upon by the Office Action discloses scheduled discovery, and the combination of the APPA with Barnard in view of Sistanizadeh would result in the system of Barnard performing scheduled discovery. Barnard in view of the APPA fails to teach or suggest the discovery procedure is initiated in response to the initial request from the node establishing a connection to the network, which is claimed and disclosed in the Applicants specification. Furthermore, it should be noted that this claimed feature overcomes the downfalls of the AAPA, because the claimed discovery, which is initiated in response to the initial request from the node establishing a connection to the network, captures devices that are temporarily connected to the network and has less impact on network performance.

Note that the arguments above were presented in the previous Response. However, the Examiner fails to respond to those arguments in the Office Action.

For the foregoing reasons, Barnard, Sistanizadeh and AAPA, singularly and in combination, fail to teach or suggest the aforementioned features of claim 32.

Independent claims 35, 40, 43 and 46 recite features similar to the features of claim

32 described above which are not taught by Barnard, Sistanizadeh or AAPA. Thus, claims

32-33, 35-36, 38-41, 43-44, and 46-47 are believed to be allowable.

- **Claims 34, 37, 43, and 45:**

Claims 34, 37, 43, and 45 are rejected under 35 U.S.C. §103(a) as allegedly being

unpatentable over Barnard in view of Sistanizadeh and AAPA, and in further view of Official

Notice. Claims 34, 37, 43, and 45 are believed to be allowable at least for the reasons their

respective independent claims are believed to be allowable.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below.

Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Dated: November 4, 2010   By   /Ashok K. Mannava/
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